

## STATEMENT OF BASIS

for draft Louisiana Pollutant Discharge Elimination System permit No. LA0104094  
to discharge to waters of the State of Louisiana.  
AI No.: 51718 / Activity No.: PER20080001

THE APPLICANT IS: Southeast Waterworks District No. 2  
417 Trahan Street  
Abbeville, LA 70500

Facility

Southeast Waterworks District No. 2 Water Treatment Plant  
417 Trahan Street, Abbeville  
Vermilion Parish

ISSUING OFFICE: Louisiana Department of Environmental Quality (LDEQ)  
Office of Environmental Services  
Post Office Box 4313  
Baton Rouge, Louisiana 70821-4313

PREPARED BY: Bonnie Wascom

DATE PREPARED: September 25, 2008

## 1. PERMIT STATUS

- A. LPDES permit – LA0104094  
LPDES permit effective date: October 1, 2003  
LPDES permit expiration date: September 30, 2008
- B. LWDPS permit – NA  
LWDPS permit effective date: NA  
LWDPS permit expiration date: NA
- C. Date Application Received: April 3, 2008

## 2. FACILITY INFORMATION

- A. FACILITY TYPE/ACTIVITY – potable water treatment plant

The Southeast Waterworks District No. 2 Water Treatment Plant is an existing water treatment facility in Abbeville, Vermilion Parish. Source water is from ground water wells. First, the raw water is injected with chlorine and potassium permanganate. The water is then sent through the greensand pressure filters used for the removal of iron and manganese and then to the zeolite softeners. After the softeners, the water is injected with chlorine again and is stored in ground storage tanks.

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The filters are backwashed with treated water every other day and the softeners are regenerated with a brine solution based on flow meter control daily. All backwash and regeneration wastewater flows into a baffled dilution tank prior to being discharged. An additional filter and a softener were added to the treatment plant in the past two years which increased the discharge from the dilution tank from 0.0324 MGD to 0.0356 MDG.

The previously unpermitted sanitary discharge from the facility is treated by a mechanical treatment package plant that is introduced downstream of the discharge from the dilution tank and prior to discharging via Outfall 001. The discharge from the mechanical package plant is estimated at 80 GPD and is not accessible to be monitored separately from the other discharge source.

B. FEE RATE

1. Fee Rating Facility Type: minor
2. Complexity Type: I
3. Wastewater Type: III
4. SIC code: 4941

C. LOCATION - 417 Trahan Street, Abbeville  
Vermilion Parish  
Latitude +29° 57' 06", Longitude -92° 08' 13.5"

3. OUTFALL INFORMATION

Outfall 001

**Discharge Type:** Filter backwash, softener regeneration, and treated sanitary wastewater  
**Treatment:** Dilution and settling for the filter backwash and softener regeneration wastewater; mechanical STP for the sanitary wastewater

**Location:** at the point of discharge from the dilution tank after commingling with treated sanitary wastewater and prior to mixing with other waters

**Flow:** 35,600 GPD

**Discharge Route:** by pipe to Young's South Coulee, thence to Young's Canal, thence to the Vermilion River

**NOTE:** This facility does not require storm water permit coverage because it does not discharge regulated storm water. The facility's SIC code, 4941, is not listed in the storm water regulations at LAC 33:IX.2341.B.14.a-k and therefore the storm water runoff from the site is not classified as regulated industrial storm water.

4. RECEIVING WATERS

STREAM – Outfall 001 – by pipe to Young's South Coulee, thence to Young's Canal, thence to the Vermilion River

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HARMONIC MEAN – 1 cfs (see attached August 29, 2008, Memorandum from Todd Franklin to Bonnie Wascom)

BASIN AND SEGMENT – Vermilion-Teche – Subsegment 060802

IN STREAM CHLORIDE STANDARD for the Vermilion River – 230 mg/l

DESIGNATED USES -

- a. primary contact recreation
- b. secondary contact recreation
- c. propagation of fish and wildlife
- d. agriculture

5. EXISTING EFFLUENT LIMITS

1. **Outfall 001 – Filter backwash and softener backwash wastewater**

| <u>Pollutant</u>       | <u>Limitation</u><br>Mo. Avg: Daily Max | <u>Monitoring</u> |
|------------------------|---|-------------------|
| Flow (GPD)             | Report: Report                          | Monthly           |
| Chlorides              | 3345:7941 mg/l                          | Monthly           |
| Clarifying Agents Used | Report: Report                          | Monthly           |
| TSS                    | 30: 45 mg/l                             | Monthly           |
| pH                     | 6.0 - 9.0 s.u.                          | Monthly           |

6. PROPOSED EFFLUENT LIMITS

BASIS – See rationale below.

7. COMPLIANCE HISTORY/COMMENTS

A. Compliance History

There are no open, appealed, or pending OES enforcement actions since January 1, 2005.  
 There is no EPA enforcement history on file since January 1, 2005.

B. DMR Review/Excursions

42 DMRs were reviewed for the period of January 2005- June 2008. The review revealed 11 exceedances for the chlorides parameter and 2 exceedances for the TSS parameter.

8. ENDANGERED SPECIES

The receiving waterbodies and proposed discharge are not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated September 29, 2006 from Watson (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered

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Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

9. 303 (d) LISTED WATERBODIES

Subsegment 060802 is not listed on LDEQ's Final 2006 303(d) list as impaired. However, subsegment 060802 was previously listed as impaired for phosphorus, nitrogen, organic enrichment/ low DO, suspended solids/turbidity/siltation, pathogen indicators, and carbofuran, for which the below TMDLs have been developed. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional TMDLs and/or water quality studies. The DEQ also reserves the right to modify or revoke and reissue this permit based upon any changes to established TMDLs for this discharge, or to accommodate for pollutant trading provisions in approved TMDL watersheds as necessary to achieve compliance with water quality standards.

The following TMDL's have been established for subsegment 060802:

Carbofuran

The TMDL for Carbofuran in the Mermentau and Vermilion Teche River Basins was final on March 21, 2002. No allocation was given to point source discharges in the Vermilion Teche River Basin. According to the TMDL, there is only one point source in the Vermilion Teche (FMC Corp. LA0064360) but it does not discharge Carbofuran. In addition, this facility has no potential to discharge Carbofuran. Therefore, requirements for Carbofuran will not be placed in this permit.

Suspended solids/turbidity/siltation

As per the TMDL for TSS, Turbidity, and Siltation for the 15 Subsegments in the Vermilion River Basin, point source loads are so small as to be insignificant, and because effective policies are in place to limit TSS discharges, no specific reductions from point sources are required. Standard TSS limitations are included in this permit.

Pathogen Indicators

Per the Vermilion River Fecal Coliform TMDL, there will be no change in the permit requirements based upon a wasteload allocation resulting from this TMDL. The pathogen indicators impairment shall be addressed through the standard fecal coliform limitations in this permit.

Organic Enrichment/Low DO

Per the EPA's Vermilion River Dissolved Oxygen and Nitrogen TMDL, the limits apply to sanitary discharges, and process outfalls of food processors and seafood processors. For discharges less than 25,000 GPD, secondary limits shall apply as per the TMDL. The organic enrichment/low DO impairment shall be addressed through the BOD5 parameter for Outfall 001.

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Nitrogen

The TMDL for Dissolved Oxygen and Nutrients in the Vermilion River was final on April 5, 2001. No allocation was given to point source discharges in the Vermilion Teche River Basin. LDEQ's position on nutrients, as supported by the ruling in *Sierra Club v. Givens*, 710 So.2d 249 (La. App. 1st Cir. 1997), writ denied, 705 So.2d 1106 (La. 1998), is that when oxygen-demanding substances are controlled and limited in order to ensure that the dissolved oxygen criterion is supported, nutrients are also controlled and limited. LAC 33:IX.2707.D.1.f.iii allows the establishment of effluent limitations based on an indicator parameter for the pollutant of concern. LDEQ's consistent approach to controlling nutrients where the WQMP does not otherwise require specific nutrient limitations is achieved by limiting the discharge of oxygen-demanding substances through a BOD5 limitation. Compliance with the BOD5 limitation as the indicator parameter will result in the control of nutrients from the discharge sufficient to attain and maintain the applicable water quality standard. Effluent monitoring of the indicator parameter as conducted by the permittee in accordance with the permit in addition to LDEQ's ambient water quality monitoring program will allow for further evaluation by the Department to determine the effectiveness of the limitation. The reopener clause located in the Other Conditions section of the permit allows the Department to modify or revoke and reissue the permit if the limitations as set on the indicator parameter are shown to no longer attain and maintain applicable water quality standards.

Phosphorus

As per the February 29, 2000 Delist (Federal Register Notice: Vol. 65, Num. 173, pages 54032-54034, 9/6/2000), assessment of new data and information shows this segment is meeting water quality standards for Phosphorus. Therefore, requirements for total phosphorus were not included in this permit.

10. HISTORIC SITES

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

11. TENTATIVE DETERMINATION

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in the application.

12. PUBLIC NOTICES

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

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Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List

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Rationale for Water Treatment Plant

1. **Outfall 001** – Filter backwash, softener regeneration, and treated sanitary wastewater

| <u>Pollutant</u>             | <u>Limitation*</u>                    | <u>Reference**</u>       |
|------------------------------|---------------------------------------|--------------------------|
|                              | Mo. Avg: Daily Max: Weekly Avg (mg/l) |                          |
| Flow (GPD)                   | ---: Report: ---                      | LAC 33:IX.2361.I.1.b     |
| Chlorides                    | 3325: 7893: ---                       | Water Quality            |
| Clarifying Agents Used       | Report: Report: ---                   | Similar discharges (BPJ) |
| TSS                          | 30: 45: ---                           | Similar discharges (BPJ) |
| Fecal Coliform (col./100 ml) | ---: 400: ---                         | Similar discharges (BPJ) |
| BOD <sub>5</sub>             | ---: ---: 45                          | Similar discharges (BPJ) |
| pH (s.u.)                    | 6.0 - 9.0                             | Similar discharges (BPJ) |

**Treatment:** Dilution, settling, and mechanical STP

**\*Monitoring Frequency:** Once per month for Flow, Chlorides, Clarifying Agents Used, TSS, and pH and semiannually for Fecal Coliform and BOD<sub>5</sub> at the point of discharge from the dilution tank after commingling with the treated sanitary wastewater and prior to mixing with other waters.

**\*\*Limits Justification:** For all parameters except Chlorides, limits and monitoring frequencies are based on the general permit for potable water treatment plants (LAG380000) and the Class I Sanitary General Permit (LAG530000). A water quality screen (attached) was performed to calculate the water quality based limit for chlorides.

The receiving waterway (Young's South Coulee) is not listed by name in the Numerical Criteria and Designated Use Table (LAC 33:IX.1123 Table 3); therefore, the allowable in-stream chloride standard of 250 mg/l will be used (LAC 33:IX.1113.C.2). Agriculture is one of the defined uses for the named waterbody. Based on known tolerances for agricultural usages, specifically rice which can tolerate up to 600 mg/l, the level of 250 mg/l will be protective of all uses of the waterway.

Receiving stream flow was established for Young's South Coulee by the engineering support group at 0.1 cfs 7Q10 and 1 cfs harmonic mean. (See attached August 29, 2008, Memorandum from Todd Franklin to Bonnie Wascom)

The harmonic mean, rather than the critical flow, was used for calculating the permit limitations for the chloride discharges in accordance with LAC 33:IX.1115.C.8, which states "For chlorides, sulfates and total dissolved solids, criteria are to be met below the point of discharge after complete mixing. Because criteria are developed over a long-term period, harmonic mean flow will be applied for mixing."

Page 8 of the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standard provides, under Harmonic Mean Flow, that a harmonic mean value of 1 cfs shall be the default harmonic mean flow when harmonic mean value is  $\leq 1$  cfs, for streams not designated intermittent at LAC 33:IX.1123, Table 3. Therefore, a harmonic mean value of 1 cfs was used in the calculations to determine the appropriate water quality based limit for chlorides.

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The calculation employing the new total flow of 0.0365 MGD yielded values of 3324.7 mg/l (Monthly Average) and 7893.0 mg/l (Daily Maximum). It was determined that a water quality based permit limitation is necessary to maintain the in-stream standard of 250 mg/l which was established to protect the uses of the water body as primary and secondary contact recreation, fish and wildlife propagation, and agriculture.

**Note: The Potable Water Treatment Plant General Permit is not appropriate for this facility because the facility treats the raw water by means of a zeolite ion exchange in the softening process. The zeolite is recharged using a sodium chloride solution which produces a high chloride concentration in the wastewater. Therefore a facility specific permit is required to determine the appropriate water quality based permit limit for discharges of chlorides.**

\* Based on current guidance for new permits discharging into a waterbody listed on the Court Ordered 303(d) list.

BPJ Best Professional Judgment

GPD Gallons per Day

s.u. Standard Units

NOTE:

For outfalls containing concentration limits, the usage of concentration limits is based on BPJ for similar outfalls since the flow is variable and estimated.

Storm Water Pollution Prevention Plan (SWP3) Requirement

Discharges from this facility are not classified as industrial storm water per LAC 33:IX.2341.B.14. Therefore, the Storm Water Pollution Prevention Plan (SWP3) requirement is not included in this permit.

However, per LAC 33:IX.903.B, all above ground storage tanks with a capacity of 660 gallons for an individual container or 1320 for multiple containers, must have secondary containment and a Spill Prevention and Control Plan.